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## PATENT ABSTRACTS OF JAPAN

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(71) Applicant: HAYASHI TELEMPUC

(72) Inventor: SAKAI TAKEYA  
UETSUKI MASAO  
KAWATSUKI YOSHIHI

(74) Representative:

**(54) LIQUID CRYSTAL ALIGNMENT LAYER, ITS MANUFACTURE AND LIQUID CRYSTAL DISPLAY DEVICE**

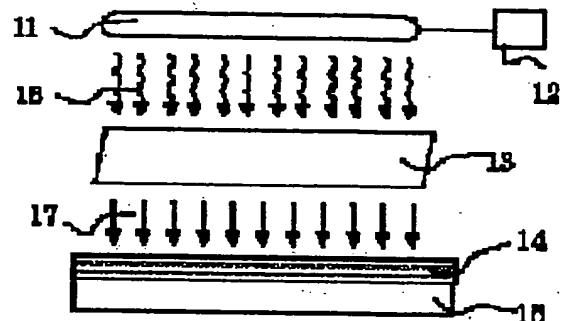
**(57) Abstract:**

**PROBLEM TO BE SOLVED:** To obtain a liquid crystal alignment layer effective in a liquid crystal display device without elongating time for a aligning treatment by manufacturing the liquid crystal alignment layer in a stage for applying a polymer having a specified structure on a substrate and in a stage including an operation for photo-irradiating the applied polymer.

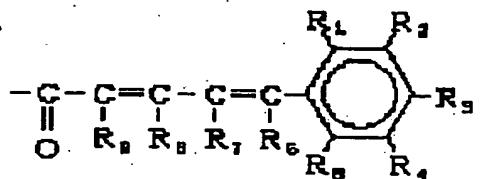
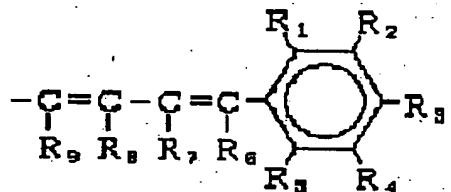
**SOLUTION:** The solution of a polymer 14 having a structure expressed by the formula I, II or the like is applied on a substrate 15. The polymer (resin film) 14 applied on the substrate 15 is irradiated through an optical device 13 (e.g. a Glan-taylor prism) with a polarized UV 17 generated by converting a non-

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polarized light 16 generated from a UV lamp 11 excited by a power source 12 to form a liquid crystal alignment layer. The (-R1)-(-R5) in the formula I and II each denotes a -H, halogen group or alkyloxy group such as a methoxyl group. And (-R6)-(R9) each denotes -H, -CN, a phenyl group, a phenoxy group, an alkyl group such as a methyl group or an alkyloxy group such as a methoxyl group.



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